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Environmental Finding: The staff of the Regional Water Board has determined, on the basis of the attached Initial Study/Checklist and the documents and sources referenced therein, that the project described above will not have a significant adverse impact on the environment with implementation of the mitigation measures identified in the Initial Study/Checklist and Negative Declaration. In addition, the project is designed to accelerate cleanup at the Site and eventually restore groundwater quality.

Initial Study/Checklist: The Initial Study/Checklist is attached. For more information call Janice Goebel at (707) 576-2676.

Mitigation Measures: The mitigation measures are included in the attached Initial Study/Checklist and will become enforceable conditions of approved Waste Discharge Requirements for the project. The mitigation measures include the following:

Mitigation Measure 3.1: The discharger shall keep the building doors closed during the injection process to prevent any molasses odors from leaving the building.

Mitigation Measure 3.2: The discharger shall comply with Monitoring and Reporting Program Order No. R1-2009-0001 that contains requirements for groundwater monitoring, and a contingency plan for on-site groundwater containment (hydraulic control) if byproducts such as metals and/or and vinyl chloride threatens to migrate off of the Site.

Mitigation Measure 11.1: The discharger shall comply with the City of Willits Noise Ordinance.

Introduction

This Mitigated Negative Declaration and Initial Study/Checklist have been prepared so that the Regional Water Board can consider adoption of Waste Discharge Requirements for the proposed groundwater treatment at the Site as needed to cleanup groundwater. The Regional Water Board proposes to consider adoption of Waste Discharge Requirements Order No. R1-2009-0001 at a Regional Water Board meeting to be held on January 29, 2009. Order No. R1-2009-0001 will allow the WERT to implement the interim remedial action at the Site for purposes of groundwater cleanup. The interim remedial action and in general the injection of reducing agents is designed to accelerate the dechlorination of VOCs in groundwater.

This report is the Mitigated Negative Declaration and Initial Study/Checklist required by the State CEQA Guidelines. It was prepared by Regional Water Board staff. This study uses project information provided by the professional consultants for the Willits Environmental Remediation Trust (WERT), and staff experience with two other projects previously performed at the former Remco Site that injected molasses to reduce hexavalent chromium and dechlorinate VOCs under Waste Discharge Requirements issued by the Regional Water Board.

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Existing Facility

The Site was a former machine shop and chrome plating facility. The former Remco Site is approximately 9.2 acres in size. The property has been vacant since 1995. A series of buildings exist at the Site which were constructed over a period between 1945 and 1986. The buildings comprise about 154,000 square feet of the property.

The machine shop operation required the use of metal cleaning solvents and other petroleum based products such as cutting oils. Spills, leaks, waste disposal activities and other discharges over the operational period of the facility resulted in VOC and petroleum hydrocarbon contamination of soil and groundwater.

Chrome plating operations required the use of high strength hexavalent chromium solutions, and solvents for degreasing purposes. Faulty design of tanks and chemical handling systems, coupled with spills, leaks, and unpermitted waste disposal activities over the operational period of the facility have resulted in hexavalent chromium and solvent contamination of soil and groundwater.

The Remco facility has a long history of improper handling and discharges of chemical solutions and waste materials. Regional Water Board files contain documentation of numerous instances when hazardous materials were improperly discharged to the soil surface (and thence to groundwater) as well as to surface waters. Regional Water Board enforcement actions at Remco date back to 1982 when hearings were conducted to refer violations of waste discharge requirements to the Office of the Attorney General. Since then, Cleanup and Abatement Orders have been issued, leading up to the current Cleanup and Abatement Order No. 99-55. The project applicant seeks to comply with this enforcement order, in part, with the proposed project.

Soil and groundwater is contaminated with hexavalent chromium, volatile organic compounds, total petroleum hydrocarbons as diesel and motor oil; and semivolatile organic compounds. A previous Interim Remedial Action was conducted in 2003 to reduce hexavalent chromium to trivalent chromium. As of this date, hexavalent chromium has been reduced from concentrations above 300,000 ug/l to less than 50 ug/l. The property is fenced and the majority of the Site is paved. Stormwater runoff from the Site drains to the north side of the property and is collected in a storm drain system. The storm drain system flows to the east of the Site underneath Highway 101 and discharges to Baechtel Creek. Baechtel Creek is a tributary to the Eel River.

There are three areas where groundwater is extracted and treated prior to discharge to the sanitary sewer. The areas include: the east side of the property at monitoring well GMX-7A, along the storm drain system to the north of the building, and to the north of the former paint shop. Groundwater is extracted to control the migration of contaminants off-site, and to lower the groundwater table along the storm drain system.

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Need for the Project

The proposed project would enable the project applicant to proceed with interim actions to commence cleanup of groundwater contaminated with VOCs prior to the selection and implementation of a final remedy for the Site. Since chlorinated VOCs are still present in groundwater at high concentrations the proposed project will reduce the extent and concentration of contamination at the Site.

The proposed project will accelerate the dechlorination of VOCs at the Site to enhance the cleanup, and lead to a final cleanup remedy to eventually restore the beneficial uses of groundwater. Without effective cleanup measures, there is the potential for exposure (vapor intrusion) to future individuals using the property, and the potential for contamination to remain in groundwater for many decades.

Specific objectives of the project are to: 1) enhance remediation of VOCs in groundwater, 2) protect human health and the environment, and 3) reduce the time for Site cleanup.

Setting

The Remco Site is an elongated, fenced parcel of approximately 9.2 acres, located immediately adjacent to and west of U.S. Highway 101 (Main Street) in the southern portion of the City of Willits, California. The Site is bounded on the south by California Western Railroad tracks and a small seasonal drainage ditch running further south of and parallel to the tracks. To the south of the drainage ditch is Walnut Street, residential property, and the Baechtel Grove Middle School. Located west of the facility are a horse pasture and corrals, commercial properties and residential properties. All the homes formerly located to the north of the Site, but on the south side of Franklin Street have been purchased and are considered part of the Site. Franklin Street and residences on the north side of Franklin Street still exist. To the east of the Site, across Highway 101, is a Safeway shopping center and Baechtel Creek. Baechtel Creek generally flows from the south to the north in the vicinity of the facility. Baechtel Creek is a tributary to Outlet Creek and the Eel River.

Currently, a concrete-floored metal building of approximately 154,000 square feet occupies more than half of the Remco Site. This building consists of several additions constructed over a period between 1945 to 1986. On the western portion of the Site, a smaller building existed that was formerly utilized for storage of raw and spent hazardous materials utilized in the manufacturing processes at the facility. This metal building is no longer present at the Site.

The Site has an asphalt-paved, fairly flat surface that slopes generally northeastward. The horizontal distance from the southwest corner to the northeast corner is about 1,150 feet. The southwest corner of the property is ten feet higher in elevation than the northeast corner of the property. Currently, surface water drains to six catch basins on the northern side of the building and one catch basin on the south side of the building.

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Stormwater is conveyed through an underground storm drain system which runs along the northern facility boundary. The storm drain system extends eastward beneath Highway 101 and the Safeway parking lot, and eventually empties into Baechtel Creek. The storm drain and drop inlets are lined to prevent the infiltration of contaminated groundwater into the system and thence to Baechtel Creek.

According to the Final Remedial Investigation Report (prepared by MWH dated April 2002), the subsurface stratigraphy at the Site consists of alluvial deposits of gravel, sand, silt and clay. Available data suggest that the coarser-grained material was deposited in stream channels while the finer-grained material was probably deposited in relatively slow moving water in the area between the stream channels or as lake deposits. Three water-bearing zones have previously been identified at the Site, and are referred to, from shallowest to deepest, as the A-, B-, and C-zones. Although the water bearing zones are generally fine-grained deposits, they tend to contain more coarse-grained deposits than surrounding strata. The identified coarse-grained deposits do not generally form a continuous layer laterally over the entire area investigated; however, in some cases the lenses are observed/interpreted to locally interconnect and exhibit varying degrees of hydraulic communication with each other.

Groundwater is encountered at relatively shallow depths typically ranging from three to eight feet below the ground surface at the Site. In the winter and spring months, groundwater has risen to the ground surface. Monitoring wells completed into the saturated zone have exhibited flowing artesian conditions. As described above, three water-bearing zones (A-, B-, and C-zones) have been identified at the Site. The A-zone is approximately 15-25 feet below ground surface (bgs), the B-zone from about 25-40 feet bgs, and the C-zone from about 50-75 feet bgs. In the A-zone, the hydraulic groundwater gradient is to the northeast at approximately 0.009 to 0.020 feet/foot. In the B-zone, the hydraulic groundwater gradient is to the northeast at approximately 0.016 to 0.019 feet/foot. Within the C-zone, the hydraulic groundwater gradient is to the northeast, but more to the east than the A- and B-zones, at approximately 0.034 to 0.038 feet/foot.

Project Description

The proposed project consists of an interim remedial action designed to dechlorinate VOCs in-situ (in-place), using reducing agents. The project applicant is proposing to inject a carbohydrate solution of organic molasses or emulsified oil with a vitamin supplement and pH buffer (herein referred to as reducing agents) into shallow groundwater (A-zone) initially at five identified locations on the site, and based on its effectiveness, may expand to other areas within the Site in the A-zone. The Site includes Assessor Parcel Nos. APN 006-170-X32, APN 006-170-01, APN 006-170-02, APN 006-170-03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, and 30. This Mitigated Negative Declaration and Environmental Checklist and the proposed Waste Discharge Requirements evaluate the reducing agent injections to enhance cleanup of shallow groundwater at the Site.

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The five initial locations includes injection points in the A-zone to 20 feet below ground surface. The initial five treatment areas are depicted on Figure 2. The injection points will be spaced 10 to 15 feet apart to provide some overlap of the reducing agents. Reducing agents will be injected at one foot intervals throughout the A-zone to 20 feet. At half of the points organic molasses will be injected and the other half will be the emulsified vegetable oil. The emulsified vegetable oil is specifically designed and formulated for the dechlorination of VOCs and may enhance the remedial effectiveness by extending the duration of in-situ reducing conditions.

The proposed Waste Discharge Requirements allow additional reducing agent injections at the Site. For additional injections, the following items shall be submitted: a) a workplan proposal to the Executive Officer for review and concurrence, b) a proposed groundwater monitoring program; c) a revised contingency plan, and d) a 30-day notification and comment period to the public and all involved agencies. If the Executive Officer finds no new significant impacts or issues, the Executive Officer may concur with the reinjection proposal. The discharger may then perform additional injections to complete remediation of the VOC contaminated groundwater in the A-zone.

Injecting reducing agents is commonly used to treat VOC contamination. The VOC treatment process is to provide a food source for the existing microorganisms in the aquifer. The microorganisms consume the food substances and donate electrons in the course of their metabolism. Once the electron acceptors are depleted, the microorganisms use the chlorinated VOCs as electron acceptors. Sufficient food source is needed over a period of time to complete the dechlorination of chlorinated VOCs to benign breakdown products like carbon dioxide and water. More than one injection may be necessary to provide a sufficient food source to complete the dechlorination process. The dechlorination of VOCs is irreversible as the process removes a chlorine atom from the hydrocarbon molecule, ultimately resulting in benign products such as carbon dioxide and water.

During the breakdown process, parent compounds breakdown to more toxic intermediary VOCs (i.e., vinyl chloride). However, this is temporary and the dechlorination of vinyl chloride continues to occur. Two pilot studies previously conducted at the site demonstrated successful dechlorination of VOCs using molasses and yeast in one area, and a soy oil in another. Data collected from the existing monitoring well network proves that the overall contamination at the Site was reduced as a result of these prior in-situ injections.

The injection of reducing agents may also temporarily mobilize iron, manganese, arsenic, and/or antimony. The mobilization of any metals is also temporary and will return to preexisting injection conditions. The migration of any metal mobilized or vinyl chloride produced as part of the treatment process is prohibited beyond the boundaries of the property owned or controlled by the discharger.

The groundwater monitoring program is in place to monitor groundwater conditions at the injection areas, just downgradient of these areas, and near the property boundary. If these contaminants are present in groundwater and in close proximity to the site

property boundary, the discharger will immediately implement a contingency plan to extract groundwater and prevent off-site migration of pollutants

The contingency plan consists of sampling groundwater monitoring wells located within the injection areas, downgradient of the injection areas, and in contingency wells located near the property boundary. If mobilized metals and vinyl chloride threatens to migrate off of the Site, groundwater monitoring wells located along the property boundary will be connected to the existing groundwater treatment system. If additional injections are proposed that are located in other areas of the Site where the existing monitoring program and contingency plan may not cover, the discharger is required to submit a revised monitoring program and contingency plan. The revised monitoring program and contingency plan will identify the groundwater monitoring wells that will be sampled, the contingency wells to control off-site migration, and could include the proposal for drilling of additional monitoring wells/extraction wells, if needed. The monitoring wells/extraction wells can be drilled and connected to the existing treatment system within a short period of time. The contingency plan to prevent off-site migration is included in the Waste Discharge Requirements.

Groundwater monitoring proposed will be accomplished by sampling 28 groundwater-monitoring wells in the A-zone. The groundwater monitoring well locations are depicted on Figure 2. Groundwater monitoring over time will be used to evaluate existing groundwater conditions. A comprehensive Monitoring and Reporting Program (No. R1-2009-0001) will be considered for adoption as part of the Waste Discharge Requirements at the January 29, 2009 Regional Water Board meeting.

The travel distance of the reducing agents at each injection point varies from 5 to 15 feet. The proposed injection areas are located within the boundaries of the property (approximately 120 and 350 feet upgradient of the property boundary) allowing a large buffer zone between the injection areas and the Site property boundary. The groundwater velocity at the site is relatively slow (estimated to range from 15 – 149 feet/year), and monitoring would be initially conducted within one month of the injections followed by quarterly sampling for VOCs, dissolved metals, and 1,4-Dioxane.

Vinyl Chloride from treatment of VOCs were observed in the 2000/2001 Pilot Study as well as the 2003 Interim Remedial Action to Reduce Hexavalent Chromium. The Interim Remedial Action to Reduce Hexavalent Chromium mobilized arsenic in one groundwater monitoring well located on the east side of the property. Groundwater extraction wells were installed to control the migration of arsenic off-site. The extraction system was effective in preventing the migration of arsenic off-site. Since that time, arsenic concentrations in this one well are at background concentrations of <5 ug/l (parts per billion). Because of the potential to mobilize metals, and because vinyl chloride will be generated as part of the dechlorination process, a contingency plan is required.

The efficacy of the proposed project was demonstrated in a pilot study conducted in 2000/2001 (*Final Post-Injection Report on Pilot Study of In-Situ Chromium Reduction, Former Remco Hydraulics, Inc., Facility, Willits, California*), and an Interim Remedial

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Action (IRA) to Reduce Hexavalent Chromium in 2003. The pilot study and IRA demonstrated the effectiveness of reducing hexavalent chromium using molasses and found that the molasses also enhanced the dechlorination of VOCs. In addition, another pilot study on the west side of the plant involved injection of molasses to groundwater in one area, and soy oil in another area to evaluate the effectiveness of dechlorinating VOCs. The results of the study showed reductions in parent compounds of VOCs, and increases in daughter products. Most importantly, the dechlorination is continuing beyond the daughter products to ethenes and ethanes. The dechlorination process is shown on Figure 3. No significant adverse environmental effects were found to result from that effort based on air and water monitoring and related reporting requirements.

Finally, previous groundwater treatment studies have demonstrated that hydraulic control of groundwater migration off-site has been achieved. A capture zone analysis for the existing extraction wells has been conducted to further evaluate the proposed groundwater contingency plan action.

Permits Required

The following is a summary of the permits/requirements that may be needed for the project:

The project applicant must comply with regulatory and permitting requirements including California State Water Resources Control Board Resolutions 92-49 and 68-16; Title 27, Division 2, California Code of Regulations; and any local, state and federal permitting requirements.

A Waste Discharge Requirements Order will be required to proceed with the project. The draft Waste Discharge Requirements Order No. R1-2009-0001 will be considered for adoption at a Regional Water Board meeting to be held on January 29, 2009. In addition, a Monitoring and Reporting Program, included as part of the Waste Discharge Requirements, will also be required to proceed with the project. The Waste Discharge Requirements allow for future reducing agent injections at the Site as long as a technically sound workplan is received, reviewed, sent out for public comments, and approved by the Executive Officer. The injections are required to be controlled on the Site in accordance with the Waste Discharge Requirements.

A permit (State Portable Equipment Permit) for the drilling rig may be needed if: 1) the drilling rig has a portable diesel engine over 50 h.p., and 2) the diesel engine is not the same engine that drives the truck.

A permit from the Mendocino County Environmental Health Department is required when drilling a groundwater monitoring well or boring.

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Initial Study/Checklist

The attached checklist is taken from Appendix G of the State CEQA Guidelines. For each item, one of four responses is given:

No Impact: The project will not have the impact described.

Less Than Significant Impact: The project will have the impact described, but the impact will not be significant. Mitigation is not required, although the project applicant may choose to include mitigation measures to reduce the impacts.

Potentially Significant Unless Mitigated: The project will have the impact described, and the impact will be significant. One or more mitigation measures have been identified that will reduce the impact to a less than significant level.

Potentially Significant Impact: The project may have the impact described, and the impact is significant. The impact cannot be reduced to a less than significant level by incorporating mitigation measures. An environmental impact report must be prepared for this project.

Each question on the checklist was answered by evaluating the project as proposed in the Report of Waste Discharge, that is, without considering the effect of any added mitigation measures. As proposed in the Report of Waste Discharge, and as reflected in the proposed Waste Discharge Requirements, the project includes various constraints and conditions which reduce all potentially significant impacts to a level that is less than significant. The checklist includes a discussion of the impacts and mitigation measures that have been identified. Sources used in this Initial Study/Checklist are numbered and listed beginning on Page 39 of the Initial Study/Checklist. The WERT has agreed to accept all mitigation measures listed on this checklist as conditions of approval of the proposed and has agreed to obtain all necessary permits.

Former Remco Hydraulics Facility
Response to Public Comments
Agenda Item 3
January 14, 2009

E1

In the matter of proposed In-situ VOC Interim Remedial Action (project), the North Coast Regional Water Quality Control Board (Regional Water Board) circulated draft Waste Discharge Requirements (WDRs), mitigated negative declaration, and Initial Study/checklist for public review and comment in January and May of 2008, and December 3, 2008. The project applicant, Willits Environmental Remediation Trust (Trust), withdrew and resubmitted the Report of Waste Discharge (ROWD) on August 25, 2008 to include additional reducing agents not identified in the previous ROWD for the project. The Regional Water Board re-noticed the project and invited any additional public comments in the time period identified.

In response to earlier public review, staff received six letters from the public commenting on the proposed project. One letter was from the City of Willits requesting postponement of the March meeting, and other comments were submitted by Mr. Ken Berry. The Trust submitted letters commenting on Mr. Ken Berry's letters to the Regional Water Board.

After the item was recirculated on December 3, 2008, the Regional Water Board received three additional public comment letters dated December 22, 2008 (Willits Citizens for Environmental Justice), January 4, 2009 (Ken Berry), and December 31, 2008 (City of Willits). In addition, two letters were received on January 12, 2009 from the Trust, after the close of the public comment period. These two letters respond to Mr. Ken Berry's comments of January 4, 2009, and the Willits Citizens for Environmental Justice's letter of December 12, 2008. These letters do not require Regional Water Board response, but are included in the agenda package. In the response that follows, staff first addresses general CEQA and other issues raised by all of the comment letters, followed by responses to specific comments and questions.

First, the gravamen of commenter Ken Berry's letters are that there is a potential for a significant adverse impact from this project and therefore a mitigated negative declaration is not an appropriate CEQA document, but rather an Environmental Impact Report (EIR) should be prepared. Similarly, Willits Citizens for Environmental Justice asked why the Regional Water Board did not order an EIR, what is a significant impact, and what standards are used for the significant impact.

A mitigated negative declaration is appropriate CEQA documentation when revisions in the project would avoid or mitigate the effects of a project to a point where clearly no significant effect on the environment would occur, and there is no substantial evidence in light of the whole record that the project, as mitigated, will have a significant effect on the environment. (Cal. Code Regs., tit. 14, §15074.) Staff has conducted an independent analysis of the project as required by CEQA and determined that the project, as mitigated, will have a less than significant impact to the environment. The

project is designed to significantly improve groundwater quality over a shortened period of time. The project has been designed to reduce any potential significant impacts to a "less than significant impact" by including mitigation measures that are identified in the Mitigated Negative Declaration and Environmental Checklist. E2

"Significant Effect on the Environment" means a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. (Cal. Code Regs., tit. 14, §15382.) The project means the whole of the action which has the potential for resulting in a physical change to the environment. It is important to understand that the project here is the effort to clean up contamination by injecting molasses and vegetable oil, a B12 vitamin supplement, and pH buffer into the subsurface to enhance the dechlorination of volatile organic compounds (VOCs). This cleanup method is used routinely by other regions and is a proven methodology for cleanup of VOCs in groundwater. (Region 4 General WDRs for Groundwater Remediation at Petroleum Hydrocarbon Fuel, Volatile Organic Compound and/or Hexavalent Chromium Impacted Sites, Order No. R4-2007-0019; Region 5 General Order for In-Situ Groundwater Remediation at Sites with Volatile Organic Compounds, Nitrogen Compounds, Perchlorate, Pesticides, Semi-Volatile Organic Compounds, Hexavalent Chromium, and/or Petroleum Hydrocarbons, Order No. R5-2008-0149).

To identify any significant impacts from the project, CEQA requires a comparison of the existing environment, which here is a contaminated property, with the environment after the project has been implemented. Staff has conducted this analysis and defined the thresholds of significance conservatively. As a result, we considered any migration of the increased interim toxicity to be potentially significant and required mitigation to ensure that this migration would not occur. Ken Berry submits that the migration of contaminated groundwater could occur because of the direction of the groundwater flow and the spacing of wells. Staff has reviewed this comment, and in response, required additional wells located east of Injection Area 4 (W54A), and to the north of Injection Area 2 and 5 (IMW-10, IMW-11, and IMW-12), to ensure the timely detection of any migration of increased interim toxicity in order to trigger a contingency plan that prevents migration off the property. Staff also modified the contingency plan submitted by the Trust to add these additional groundwater monitoring points between the injection areas and the property boundary. If sampling data detects and confirms an increase in VOCs and metals in these wells, then the contingency plan is triggered. The contingency plan provides a method for additional sampling downgradient and/or groundwater extraction in advance of any constituents migrating off-site. More details are provided in response to specific issues raised below. There is no possibility that increased interim toxicity will migrate off the property because of the extraction system located along the perimeter of the property.

Similarly, staff defined air and noise impacts conservatively, and required mitigation to prevent any impact. Potential air impacts evaluated for this project include increased emissions from drilling and other equipment brought to the site to inject the reducing

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agents, the sweet smell of molasses as a potential nuisance, and potential vapor intrusion. The potential air impacts from increased emissions and nuisance odors will be minimal because the duration of the project will be completed in less than two months, and the molasses process is in sealed containers and closed piping. For potential vapor intrusion, the mitigation measure is to contain the treatment process within the property boundaries. Previous air monitoring studies using hand held meters and fixed air monitoring stations did not detect VOCs or hydrogen sulfide from two pilot studies, and two interim remedial actions using the same reducing agents (molasses and vegetable oils). Noise from the drill rigs has been mitigated by requiring the Project Proponent to comply with the City of Willits noise ordinance. Regional Water Board staff carefully reviewed possible impacts and required stringent mitigation where any possibility of an impact exists. These decisions are explained thoroughly and are supported by substantial evidence.

Ken Berry and the Willits Citizens for Environmental Justice have not provided substantial evidence to make a fair argument that the project, as mitigated, will cause a significant effect to the environment. Substantial evidence means enough relevant information and reasonable inferences from this information that a fair argument can be made to support a conclusion. Substantial evidence does not include argument, speculation, unsubstantiated opinion or narrative. (Cal. Code Regs., tit. 14, §15384.) Accordingly, the decision to adopt a mitigated negative declaration is appropriate and supported by CEQA and the evidence in the record.

Second, commenter Ken Berry appears to confuse the baseline environmental condition of the property with the proposed project, as evidenced by his comment that the Regional Water Board has taken the position that the Remedial Investigation (RI) is equivalent to an EIR. This is incorrect. Mr. Berry suggests that the RI was prepared by a consultant for PepsiAmericas for purposes of preparing a Securities and Exchange Commission (SEC) Form to determine their financial risks, and therefore the RI cannot be used to represent an independent analysis under CEQA by the Regional Water Board. This is irrelevant.

The Regional Water Board has required a thorough investigation at the site to define the extent of contamination, and this is partly addressed in the RI. The RI was prepared to meet the requirements of Cleanup and Abatement Order No. 99-55 and the Consent Decree (Amended Consent Decree, Final Order, and Final Judgment, and Order Establishing the Willits Environmental Remediation Trust, as amended and entered by the Court on December 22, 2000). This information is necessary for decisions to be made on overall cleanup necessary for the site. The extent of the contamination can be used in a subsequent CEQA analysis to compare proposed cleanup actions with the environmental baseline. The site characterization does not alter the CEQA analysis for this project unless the commenter provides evidence that the proposed action will alter the existing condition (which is the contaminated property) in such a way that increases the environmental degradation. For the independent analysis under CEQA, the entire file record was considered, and not just the RI. A substantial amount of work was conducted after the RI was drafted in 2000

E4

and finalized in 2002. Using this information, staff has identified the potential impacts that the proposed project could create, and required mitigation measure to ensure that those impacts will not occur.

Regional Water Board staff has no knowledge of PepsiAmericas use of the RI for the SEC filing, and this point appears irrelevant to this project. We do not rely on the RI solely for the information needed to evaluate the Remco site. Rather, staff utilizes numerous documents in the file record for the Remco site, which encompasses 23 feet of file material including groundwater monitoring reports, workplans and reports of investigations, reporting on interim remedial actions. For this project, staff relied on the list of references attached to the IS/Checklist, plus the entire file record.

Ken Berry also confuses the public process conducted by the Trust with the project before the Regional Water Board in his comment that the project proceeded while the public comment period was still open, in violation of CEQA. To be clear, the Trust has not begun implementing the proposed project. The project proponent submitted a Report of Waste Discharge to the Regional Water Board in November of 2007 for consideration of Waste Discharge Requirements, and concurrently mailed a fact sheet to its interested parties list, also in November of 2007. The Fact Sheet described the proposed project and solicited comments along with a deadline for comments to be received. The Fact Sheet and the solicitation of public comments by the Trust is a requirement of the Consent Decree and is separate from the Regional Water Board permitting process.

In response to the receipt of the ROWD, Regional Water Board staff prepared a mitigated negative declaration, Environmental Checklist and draft WDRs for consideration by the Regional Water Board in March 2008 and again in June 2008. The item was pulled from the March meeting as requested by the City of Willits, and again in June due to changes in the proposed project and late comments received. The Trust submitted an addendum to the ROWD on August 25, 2008. The Regional Water Board circulated the proposed WDRs, mitigated negative declaration, and Initial Study/Checklist to the State Clearinghouse and for public comment on December 3, 2008. The Trust is waiting for the adoption of the Waste Discharge Requirements before it proceeds with the project implementation.

Finally, Ken Berry accuses Regional Water Board staff of accepting the work prepared by the Trust and their consultants and not performing an independent analysis of the environmental effects of the Remco project. The suggestion that the Regional Water Board should be conducting the cleanup work is not consistent with our role as the regulatory agency overseeing cleanup efforts. All regulatory agencies, including the Department of Toxic Substances Control and U.S. Environmental Protection Agency, mandate that sites are investigated and cleaned up, but do not routinely conduct the work themselves. Instead, these agencies review work performed by professional companies and licensed individuals that are hired by the dischargers and responsible parties. Regional Water Board staff independently reviews the work conducted by the

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Trust and its consultants and provide comments on the work performed. As for this project, staff reviewed the project and drafted waste discharge requirements, a groundwater monitoring program including a comprehensive contingency plan that the discharger must follow in order to proceed with the interim remedial action.

Staff responds to all specific comments below. Comments received from Ken Berry (KB) and the Willits Citizens for Environmental Justice (WCEJ) are grouped together where appropriate with the commenter identified in parentheses.

The December 31, 2008 letter received from the City of Willits indicated that the City had no objections to the proposed project.

Groundwater

(1) Comment(s):

The commenter, (KB) cites a difference in the direction of groundwater flow between the prior molasses injection site and well GMX-7A, the direction indicated by the Remedial Investigation (RI), and differences in the August 25, 2008 report and the information contained in the RI. The commenter (KB) asserts that the groundwater flow direction is not sufficiently characterized to allow the preparation of a negative declaration, but rather an environmental impact report (EIR) should be prepared. In addition, the commenter (KB), states there are insufficient monitoring wells to the east of Injection Area 4, the site is not characterized well enough to the east of Area 4, and the extent of contamination for the site has not been determined because groundwater monitoring wells are spaced too widely apart. The commenter (WCEJ) asks if the RWB will require the discharger to install wells closer for better monitoring.

Response:

The direction of groundwater flow has been evaluated at the site since the early 1980s. There is an eight year time difference between the time that the draft RI was published in 2000, and the August 2008 report on the groundwater flow direction. Staff reviews on a routine basis groundwater monitoring reports submitted by the WERT which include the calculation of the groundwater flow direction. Currently, the direction of groundwater flow is calculated semiannually as part of the routine monitoring. Groundwater flow direction was evaluated during the former chromium interim remedial actions and pilot studies. Groundwater flow direction varies seasonally due to precipitation and other influences at the site, such as operation of extraction wells. The draft RI report was completed in 2000 (and finalized in 2002), and since that time, two additional areas have been added to the extraction system. One extraction area is located on the northeast side of the property (GMX-7A area), and one extraction area to the north of the former paint shop area. Before the draft RI report was published in 2000, groundwater extraction began near the former chrome plating tanks located in the north-central portion of the site, and along the storm drain located to the north of the building.

E6

Because of seasonal influences and the groundwater extraction systems, differences in the direction of groundwater flow are expected.

The groundwater flow direction calculated in 2000 and 2008 accurately represents the site conditions for each time period and is not a contradiction or an unexpected difference that warrants the preparation of an EIR. The mitigated negative declaration provides mitigation measures that address the potential for migration of contaminated groundwater off-site regardless of variations in flow direction. Modeling of groundwater from all of the proposed injection areas has also been conducted to show that the existing groundwater monitoring well network is sufficient to evaluate this project and adequately capture the plume before migrating off-site.

An additional groundwater monitoring well, W54A, has been installed to the east of injection Area 4 to monitor the east side of the site. Soil and groundwater contamination has been defined to the east of Injection Area 4 by the installation of numerous soil borings where soil and grab groundwater samples were collected and analyzed. No groundwater contamination was detected in the borings, with the exception of the area near Monitoring Well W54A. Well W54A was installed because of the finding of contamination at this location. Other monitoring wells also exist on the east side of the site to evaluate groundwater conditions, including W13A and W15A. The site is adequately characterized on-site and off-site, and the monitoring well network is sufficient to evaluate this project and control off-site migration.

Approximately 136 groundwater monitoring wells have been installed in the shallow groundwater bearing zone, and additional wells have been installed at deeper depths. Figure A1 shows the locations where soil, groundwater, and sediment samples have been collected at the site and to the east of Area 4. Figure A1 is difficult to read in detail. However, the primary purpose of presenting the map is to depict the comprehensive soil and groundwater investigation conducted at the site. Several perimeter groundwater monitoring wells, located off the Remco facility, have been installed to determine the horizontal extent of contamination. These wells show no detectable levels of any chemicals of concern identified for the Remco site. In addition, there are groundwater monitoring wells at two existing nearby gasoline service stations, the Unocal Station and Redwood Oil Chevron Station, where releases of petroleum hydrocarbons are being investigated. Groundwater monitoring wells also existed at the former Chevron Station, but were removed after closing the site and redevelopment into the Safeway Fuel Center. These sites are also shown on Figure A1. Groundwater conditions from the release of petroleum hydrocarbons from each of these stations are currently evaluated, as well as the potential for Remco constituents in groundwater at these locations.

In December of 2008, three additional groundwater monitoring wells were installed on the property to monitor groundwater conditions downgradient of the injection

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areas. These wells are identified as IMW-10, IMW-11, and IMW-12, and are shown on the Figure 2.

(2) Comment(s):
Groundwater contamination will flow off-site. The maps presented show the effects of extraction wells, but those maps show that the effect is smaller than the distance between some monitoring wells. A plume of contaminated water can escape the site, as has happened when a similar project was implemented without proper environmental analysis (KB). What will the RWB do if the contingency plan does not work? (WCEJ)

Response:
The project proponent has installed groundwater extraction wells and a treatment system to provide control of contaminated groundwater. There are two areas where groundwater extraction is in place to control the off-site migration. Extraction from these wells will continue to prevent the off-site migration of contaminants. The contingency plan that will be implemented as part of the WDRs is to connect existing and/or (if needed) new groundwater monitoring wells to the groundwater treatment system, should there be a threat of off-site migration from the project. The existing treatment system has adequate capacity to handle more connections to the system.

The maps of the inferred capture zones for the extraction wells, in the event the contingency plan is implemented, show adequate capture of groundwater between the groundwater monitoring wells. The previous project referred to by the commenter is the Interim Remedial Action to Reduce Hexavalent Chromium. The contingency well, GMX-7A, located near the eastern property boundary, had dissolved arsenic from the IRA and implementation of the contingency plan was necessary to prevent off-site migration. The effectiveness of the contingency plan to control groundwater has been proven by the existing system. The contingency plan, as contained in the Monitoring and Reporting Program provides for additional wells that will be plumbed to the system and/or new extraction well(s) to be drilled for further containment.

(3) Comment(s):
Groundwater flow is determined by the slope of the groundwater surface, and not with the distribution of cis-1,2-Dichloroethene (1,2-DCE). The commenter (KB) states that the RI contains false information concerning the direction of groundwater flow and fails to determine the extent of contamination.

Response:
The project proponent submitted a map in their August 25, 2008 letter report showing the distribution of 1,2-DCE as further evidence of the groundwater flow direction and chemical transport. The distribution and concentrations of 1,2-DCE in

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groundwater provides supporting documentation to verify the groundwater flow direction.

The consultant who prepared the RI is a licensed geologist who has affixed his signature and stamp to all reports, and thereby verifies that the data being submitted is accurate to best of his professional qualifications. There is no justification for the assertions that the RI contains false information. It appears that there may be a lack of understanding of the site hydrogeologic data on behalf of the commenter (KB). As stated above, groundwater flow directions can change over time in relation to seasonal fluctuations and site conditions such as pumping groundwater. Noting these differences is not falsifying data; rather, it accurately reflects the variability of site conditions through time.

The extent of contamination has been determined at the site and is addressed in response to comment No. 3 above. The requirement for placement of groundwater monitoring wells at closer intervals is not necessary. The attached map shows the spacing of groundwater monitoring wells off of the property, and the existing wells adequately represent conditions in the area.

(4) Comment(s):
No analysis of the chemistry in groundwater has been conducted. The commenter (KB) also raises the issue that the site has not been adequately characterized because dioxins and furans have not been tested, and the highly mobile chemical MTBE. The commenter (KB) states that heating elements can produce dioxins, and that 50 barrels of liquid waste were disposed to the atmosphere each week.

Response:
The statement that no analysis of the groundwater chemistry has been conducted is without any supporting information or details. The site soil and/or groundwater has been analyzed for the following constituents: TPH as gas, diesel, motor oil, oil and grease, semivolatile organic compounds (SVOCs), volatile organic compounds (VOCs), fuel oxygenates including MTBE, Polychlorinated Biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAHs), 1,4-Dioxane, NDMA, cyanide, pesticides, metals including hexavalent chromium, and geochemical parameters such as pH, dissolved oxygen, total and dissolved organic carbon, oxidation reduction potential, suspended solids, turbidity, chemical oxidation demand, bromide, total alkalinity, chloride, dissolved sulfide, methane, nitrate nitrogen, sulfate, and other parameters. MTBE is not a constituent of concern at the Remco site, but is detected in groundwater monitoring wells at two gasoline service stations downgradient of the Remco facility. The MTBE detected at those gasoline service stations is from releases from those facilities.

The issue of sampling for dioxins and furans in soil is not related to this project (VOC IRA) but to the overall characterization of the site. RWB staff is evaluating whether dioxin and furan testing is necessary at the site. It is not apparent that any processes conducted at the Remco facility would have resulted in the generation of

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dioxins and furans. The commenter (KB) provides an unsigned declaration from a former Remco employee stating that he built an evaporation pit where Remco wastes were allegedly evaporated with a heating coil (liquids containing Remco wastes such as VOCs and chromic acid). Staff had already begun investigating the allegations that Remco generated dioxins and furans. Staff has contacted several dioxin experts at the U.S. Environmental Protection Agency (U.S. EPA) and the Department of Toxic Substances Control (DTSC) to solicit comment on whether this evaporation pit could potentially generate dioxins and furans. To date, the answer from these agencies is that an evaporation pit with heating coils would not be hot enough to generate dioxins and furans. However, we are still reviewing all the site information and will provide it to U.S. EPA for review and request a formal response/recommendation from their dioxin experts. The outcome of the investigation will be provided to the WERT and all interested parties through written correspondence.

(5) Comment:
RWB Staff's failure to provide oversight resulted in the mobilization of arsenic off site in the previous project. (KB)

Response:
Arsenic was mobilized in one groundwater monitoring well, GMX-7A, during the previous Interim Remedial Action to Reduce Hexavalent Chromium. The contingency plan to inject hydrogen peroxide to reverse any metal mobilization was not effective, and the well was plumbed into the extraction system. A groundwater investigation was conducted off-site to determine if arsenic had migrated onto the Safeway property parking lot. The results of the investigation are included in the report *Results of Additional Data Collection East of Site*, dated September 2004. The data did not indicate that a plume of arsenic was present on the Safeway property. Dissolved arsenic in groundwater in GMX-7A returned to background concentrations within one year.

(6) Comment(s):
RWB staff has accepted the contradictory evidence concerning the rate of groundwater flow of up to 600 feet per year. That rate is sufficient for the migration of chemicals over a mile. (KB)

Response:
Staff has not accepted a groundwater flow rate of 600 feet per year as suggested by the commenter. The rate of groundwater flow varies at the site. However, the overall site groundwater velocity is estimated to range from 15 to 149 feet/year. As additional evidence of the rate of groundwater flow, the extent of existing contamination does not extend much beyond the property boundaries, approximately 300 feet from the site boundaries.

(7) Comment(s):

The commenter (WCEJ) asks what are the different names of the more toxic intermediary VOCs? E10

Response:
Vinyl chloride is the most toxic intermediate VOC. All of the VOC breakdown products are shown on Figure 3 of the agenda package.

(8) Comment(s):
The commenter (WCEJ) asks how will the in-situ agents stay in the A-zone, and if there are artesian conditions/wells at Remco.

Response:
There is some interconnectivity between the A zone and B zones. However, previous injections of molasses into the A-zone had little impact in the B-zone. The B-zone contamination is localized at the west side of the building (paint shop) and near the former chrome plating area (central area of the building). Groundwater monitoring of B zone wells is ongoing to evaluate groundwater conditions. There are artesian conditions that have been observed in winter months when the groundwater table is high. Groundwater comes out of the ground through cracks in the concrete floor. However, the groundwater extraction system is in place to lower the water table to prevent the upwelling of contaminated groundwater onto the floor of the Remco facility.

(9) Comment(s):

The commenter (WCEJ) asks if the lenses that interconnect and exhibit varying degrees of hydraulic communication act as a pathway for chemicals of concern to migrate off-site, now or in the future from this in-situ process.

Response:
There is some hydraulic communication between permeable lenses at the site, but they do not generally form continuous layers laterally over the entire site. The groundwater monitoring wells, just downgradient of the injection areas, and closer to the property boundary will be sampled frequently to monitor the dechlorination process and potential transport of VOCs.

Air and Vapor Intrusion

(10) Comment(s):
An analysis of vapors in nearby homes has not been conducted as required by State Department of Public Health's (formerly the State Health Department, Environmental Health Investigations Branch) recommendations (KB).

Response:
The State Department of Public Health (DPH) recommended that the RWB staff require air sampling in the homes immediately to the north of the Remco property

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during the various seasons of the year. The air monitoring recommendation was to evaluate the vapor intrusion pathway in the homes for protection of the residents. Ambient air monitoring inside the homes and in the crawl spaces of one home was conducted by the Project Proponent (*Air Data Collected on Franklin Avenue Properties*, May 20, 2005) under the direction of the State DPH and RWB staff. After the air monitoring sampling event, the homes were purchased and torn down. Therefore, the air sampling is no longer necessary.

The air sampling program, conducted under the direction of the State DPH and RWB staff, consisted of sampling outside ambient air, air in the crawl spaces, and air within the homes. The results of the air sampling detected only one VOC compound, benzene, above the Cal-EPA recommended risk-based screening criteria. These criteria are conservative screening levels that correspond to an acceptable target risk of one-in-one million (1×10^{-6}) for carcinogenic compounds. The source of benzene detected in all of the air sampling locations is not attributable to the former Remco facility. Benzene is not a constituent of concern at the site; it is only detected in two A-zone groundwater monitoring wells out of 136 wells, and at low concentrations (Well IMW-7 at 2.5 ppb and Well MLW-10U at 1.1 ppb; Data from *Semi-Annual Monitoring and Sampling Report, (January 1 through June 30, 2008)*). These two A-zone wells are not located near the homes and air sampling locations. Benzene can be associated with gasoline stored for home use, gas stations (nearby), auto exhaust and household products such as paints, carpets, and tobacco smoke.

(11) Comment(s):
The commenter (WCEJ) asks whether the volatization of VOCs has been causing impacts to the ozone layer, or an increase in greenhouse gases, or whether the ethenes and ethanes will cause more greenhouse effects. What is stopping the vapor intrusion now, does the project proponent have a way to measure vapor intrusion/pressure, and how is the project proponent going to capture all the vapors?

Response:
There are no vapors detected in ambient air from the Remco site, both within the building and outside the building. Previous air monitoring studies using hand held meters and fixed air monitoring stations did not detect VOCs or hydrogen sulfide from two pilot studies, and two interim remedial actions using the same reducing agents (molasses and vegetable oils). Sampling for VOCs in homes and crawl spaces of the homes also confirmed no vapor intrusion issues from VOCs attributable to the Remco site. Please see Response to Comment 10 above, regarding vapor intrusion. Because the treatment of VOCs has been and will continue to be below ground, we do not expect impacts from the Project to the ozone layer nor an increase in greenhouse gas emissions resulting from the breakdown of VOCs.

Other Issues

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(12) Comment:
The RWB received an NPDES permit application on August 18, 2008 (KB).

Response:
No application for an NPDES Permit was received in August of 2008 (nor any other date), but rather a revised report of waste discharge for the RWB to consider Waste Discharge Requirements for the In-situ VOC IRA.

(13) Comment(s): The commenter (WCEJ) asks what pH buffer and molasses will be used, why yeast isn't being used, and how will the oil stay emulsified.

Response: The molasses is a food grade organic molasses from the vendor Grain Millers Specialties products in Lincoln, Nebraska. The emulsified vegetable oil is from the vendor EOS Remediation. The product is called EOS450, and is emulsified with a proprietary food grade emulsifier. Rather than using yeast, the project proponent is selecting a vitamin B-12 solution. The pH buffer solution is calcium carbonate suspended in an aqueous solution with food grade additives. The pH buffer solution is produced by the company RNAS, Inc.

(14) Comment(s): The commenter (WCEJ) asks whether the public will be informed when injections are proposed for other areas.

Response: Yes. Waste Discharge Requirements Order No. R1-2009-0001, Page 6, Discharge Specification B.2 outlines the process for providing notification for any reinjections. The notification requires a public notice and comment period.

(15) Comment: Has the RWB hired its own independent geochemist to explain the chemical composition of and changes in the crust of Remco and the surrounding area? (WCEJ)

Response: No. The RWB staff has its own staff with experience in the type of project proposed for the Remco site.

(16) Comment: Can these more toxic intermediary VOCs harm anyone if they get off site? (WCEJ)

Response: There needs to be a route of exposure to cause harm to individuals. The project proponent (discharger) is required to keep the treatment process on-site, thus preventing any exposure to individuals.

(17) Comment(s): The commenter (WCEJ) asks whether the project can cause metasomatism in plants, animals and rocks, especially if it goes off-site.

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Response: Metasomatism is the series of processes whereby minerals or rocks are replaced by others of different chemical composition as a result of the introduction of material, usually in very hot aqueous solutions, from sources external to the formation undergoing change.

The answer is no, the project will not result in metasomatism of minerals, rocks, plants or animals at any location. However, the migration of VOCs and intermediary VOCs off of the property boundaries is prohibited and a contingency plan is in place to prevent off-site migration.

(18) Comment(s): The commenter (WCEJ) asks whether any other microscopic forms of life might change or cause harm to the environment by this process including fungus and bacteria. The commenter (WCEJ) asks what are the names of the microorganisms that donate electrons, and how has the groundwater treatment been achieved.

Response: The treatment process to dechlorinate VOCs is discussed on Page 6 of the Mitigated Negative Declaration. The in-situ treatment process enhances the natural microorganisms present at the site. The specific microorganisms have not been speciated, but most likely are a microorganism called "Dehalococcoides". This microorganism typically is present at solvent sites where the dechlorination process is occurring. Since the pilot studies and IRAs have shown effective dechlorination, there is no need to conduct further testing to determine the type(s) of microorganisms present at the former Remco facility. No fungus or bacteria, with the exception of the microorganisms that dechlorinate the VOCs, are expected to be generated by this process.

(19) Comment:
The commenter (WCEJ) asks whether this process will reduce any metals and what were the levels of vinyl chloride in 2000, 2001, and 2003.

Response: The injection of molasses has reduced hexavalent chromium at the site as part of the Interim Remedial Action to Reduce Hexavalent Chromium, conducted in 2004. The results of this study are in the report titled: "Fourth Quarter 2006 Report for Interim Remedial Action for Hexavalent Chromium-Affected Groundwater, February 7, 2007".

The sampling results of vinyl chloride are reported on a routine basis in groundwater monitoring reports, and reports of the pilot studies and IRAs. These groundwater monitoring reports can be reviewed at the Regional Water Board's offices, at the document repository in Willits, and on-line at www.willitstrust.org.

(20) Comment(s):
The commenters (KB & WCEJ) ask what is the time frame to dechlorinate VOCs at the site.

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Response: The time frame to complete the dechlorination process will vary across the site. In some areas of the site the dechlorination process was completed during the pilot project and the Hexavalent Chromium IRA in less than five years, and in some areas it is taking longer.

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January 27, 2009

North Coast Regional Water Quality Control Board
5550 Skylane Boulevard, #A
Santa Rosa, CA 95403-1072

Re: Remco In-Situ VOC Remediation
Request for Notification

This letter is to comment on the Mitigated Negative Declaration (ND) proposed to be adopted by the North Coast Regional Water Quality Control Board (R1WB) to approve the In-Situ Groundwater Interim Remedial Action (IS IRA). This letter is to also request notification when the R1WB issues a Notice of Determination (NOD) for this project.

R1WB staff assert that I have not submitted any evidence. That is not true in two specific instances. I submitted a copy of a declaration by the constructor and operator of a pit that was used to evaporate chemicals. I also submitted portions of a document filed by Pepsi Americas, Inc. with the Security and Exchange Commission.

Presumably, the R1WB staff comments referred to the several other issues I have raised. It is true that I have referred to documents without including copies. In fact, the duty to comply with CEQA rests entirely on the R1WB. The duty of members of the public to comment and raise issues is a requirement for subsequently seeking judicial review.

R1WB accuse me of confusing the NCP (National Contingency Plan) process with the CEQA process. In fact, CEQA requires that it be implemented in conjunction with other environmental laws, such as the NCP. Furthermore, when this project was announced, I requested the documents associated with the project application and the Project Manager told me to search the file, a violation of the CEQA requirement that certain documents be available during the process.

The Legislature has mandated that every public agency subordinate to the State of California perform certain procedures specified by CEQA prior to making a discretionary decision. The R1WB is making such a decision with regard to re mediating the Remco sites.

In order to conduct the independent analysis required by CEQA, an agency must either have expert staff or contract with experts to prepare an EIR. Typically, with local agencies, a contractor is hired to prepare the EIR in cooperation with agency staff. The contractor then coordinates the experts and prepares the actual document. This is clearly an independent effort by the agency because the agency hires and directs the contractor. CEQA provides that the project applicant pay the costs of the consultation.

Instead of following that mode, the R1WB has accepted the work of contractors hired by the

project applicant (Trust). The R1WB does not have its own experts. I maintain the R1WB is not conducting an independent analysis.

General Issues

In my letters, I have established several issues, each of which is supported by substantial evidence in the record of proceedings (ROP) of the project. These issues include the following:

1) The flow of groundwater described in the Remedial Investigation, which has been unlawfully certified as the Master Environmental Impact Report (EIR) for this project, is incorrect, as proven by the necessity of pumping at GMX-7A.

2) The observed flow rate of the groundwater must transport dissolved chemicals offsite unless they are removed. The R1WB has offered no explanation at any time why it believes the chemicals drop out of solution without treatment.

3) The reports that the R1WB relies on in lieu of any independent analysis performed under contract to the R1WB show that the spacing of the monitoring wells is too broad to detect the sort of plume that was previously generated and detected at well GMX-7A.

4) The proposed project will result in the mobilization of metals for an unknown time and will produce vinyl chloride, a known carcinogen. No mitigation measure is identified for these effects, only the hopeful notion that they will dissipate in the future.

5) The extent of contamination is unknown because the R1WB has simply assumed that wells that show detected contamination at relatively low levels must be near the edge of the plume. In fact, the edge of the plume must be determined by locating wells that return detection levels indistinguishable from the background. Furthermore, the wells must be spaced near enough to detect narrow stream channels that exist beneath Little Lake Valley in and near the project site.

6) The nature of contamination is unknown because the R1WB has never attempted to understand it. Instead of conducting the investigations required by law, the R1WB has relied exclusively on reports prepared by and for the Willits Environmental Remediation Trust (Trust). That in itself is a violation of CEQA because the Trust is the project applicant and the R1WB has no competency to independently evaluate the reports.

The Trust chose to limit its investigations to those discharges voluntarily admitted by the polluter. Because the R1WB is not performing its duty to oversee the project, the omission of dioxins by the Trust has caused the R1WB to fail in its responsibility to protect water quality. Although the R1WB has long known dioxins are present at the Remco site, the R1WB deliberately decided to not test for them. The R1WB assumed, without any evidence, that the dioxins must come from a nearby hospital incinerator simply because the polluter did not identify dioxins as a contaminant expected to be at the site.

Standard for ND / EIR

The responses to comments do not resolve the issues raised. The standard for deciding whether to prepare an Negative Declaration (ND) is whether a fair argument can be made that the potential exists for there to be at least one significant adverse impact or effect on the environment. The standard is NOT whether the R1WB likes the argument. Once the argument is raised, the Lead Agency (LA) must either modify the conditions of approval to eliminate the possibility of a significant adverse impact, or it must prepare an EIR.

In approving an EIR, the LA has considerable discretion to decide among conflicting opinions, but that discretion does not extend to the decision to prepare an EIR in the first place. Because the R1WB cannot cause the the effect that more toxic chemicals, namely vinyl chloride and mobilized metals, will be produced to be reduced to insignificance by any mitigation measure, an EIR is required. Although interested parties are assured that the vinyl chloride will break down into benign chemicals, no analysis is provided concerning how long that will take. The metals unintentionally mobilized when the R1WB approved an earlier IRA without performing any environmental analysis are still being extracted.

Maybe the Legislature requires an independent analysis to give agencies a fresh perspective, and avoid the situation the R1WB has created.

It is not required that persons raising issues prove that there is a significant adverse impact. The threshold is only that a fair argument be made, and that the argument be based on substantial evidence in the record. Furthermore, "substantial evidence in the record" refers to any documents in the ROP. It is not necessary that commentors submit substantial evidence. It is only necessary to describe issues if there is already substantial evidence in the record.

Responses to Comments

The following comments correspond to the numbers assigned by the R1WB in the document titled "Responses to Public Comments".

(1) Groundwater flow. The RI is clear that groundwater flow direction is determined by the slope of the potential surface. Seasonal variations are shown in the RI, and all are different from the direction that mobilized metals actually flowed from the injection point to well GMX-7A. To be clear, well GMX-7A lies almost exactly due east of the area where molasses was injected into the groundwater in an earlier IRA. Yet based on the potential surface, the groundwater flows to the north east.

The explanation given by the Trust's consultant during a public meeting is that there are localized areas of higher density (lower permeability) in the subsurface. Presumably one such "clay lens" lies to the north east of the previous injection site and the groundwater was diverted to the east to flow around the obstruction.

The site does not have three independent aquifers, and there is no continuous layering. This is because the ground was deposited by meandering streams, which leaves complex patterns of clays, silts, and gravels There may be three general zones that can usually be distinguished, but it is clear there is communication between the zones, and that the mapping of zones B and C is much too restricted.

However, the point is that the RI was proven incorrect, and the RI has been identified as the environmental document that corresponds to an EIR for this project. The same methodology was used in the RI for the entire site. Therefore there is substantial uncertainty in the direction of groundwater flow under the entire site. This is a consequence of the insufficient number of monitoring points to determine groundwater flow. There were not enough wells to detect areas where groundwater would be channeled into different directions than the average.

(2) Contamination off site. If the width of the plume is less than the distance between the monitoring wells, the monitoring wells will not detect the migration of chemicals offsite in any plume that avoids the wells. Measurements of the published maps show that the capture zone of a pumping extraction well is smaller than the distance between passive monitoring wells.

The previous IRA demonstrated that groundwater flows in ways that are not predicted by the RI because insufficient data were collected to accurately characterize the subsurface. The proper solution to this circumstance is to characterize the subsurface.

It is a fair argument to say that wells that are spaced further apart than the extent of contamination cannot monitor that contamination. The supporting facts are in the ROP for the project.

(3) Determination of groundwater flow. The method of determining groundwater flow is described in the RI. It has nothing to do with any particular contaminant in the groundwater. The flow direction is determined from the shape of the surface of the groundwater. The flow of dissolved contaminants will be the same as the water.

While the author of the report may be a licensed geologist, he was not employed by the R1WB, but by the project applicant. Furthermore, by attempting to change the way the direction of groundwater flow is determined, the R1WB has created a difference of opinion among experts. Interestingly, the "experts" are one and the same, namely the geologist at issue. Maybe the RI is incorrect, but an EIR is required to sort out what methodology is to be used.

(4) Chemistry of groundwater not characterized. I did not say that the R1WB is completely ignorant of every chemical in the groundwater. I did say and will continue to assert that certain chemicals have not been characterized, because that is what the R1WB itself says in the ROP.

I was aware of the declaration concerning evaporation of waste materials because I interviewed

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the person who constructed the evaporation facility and who later operated it. R1WB staff correctly observed that the copy of the declaration I submitted was not signed. The original was in fact signed under penalty of perjury and filed in the United States District Court. It was not necessary to prove the authenticity of the declaration because the worker's name, address, and telephone number are given in the declaration. The R1WB has a responsibility to investigate this kind of information.

Furthermore, it was a matter of clerical convenience to use an electronic copy of the declaration instead of copying a court document. CEQA processes are not conducted with the formality of a judicial proceeding. The State and Regional Boards do the very same thing when they publish documents on the Internet in many instances. I know the declaration is correct because the copy filed with the court was printed from the same file as the copy I provided the R1WB. I am prepared to swear under penalty of perjury that every statement I have made with regard to any of the Remco projects has been fully consistent with all of the facts I knew at the time.

I already knew how dioxins are produced in combustion processes, so I asked the worker about the heaters. The worker was not involved in the selection of the heaters, only in turning them on and off on a daily basis. I then searched the Internet for information concerning immersible heaters and found that some operated at the optimal temperature for producing dioxins in exhaust from combustion facilities. I have not been able to find information about the production of dioxins within a liquid, but the elements required for gaseous production are present.

R1WB staff indicate that they requested expert assistance from other agencies. That is curious because the definitive test for the presence of dioxins involves samples and laboratory work, not speculation. The R1WB, like everyone else, is ignorant of key parameters. What temperature did R1WB staff give as the operating temperature of the heater elements in contact with the chlorinated hydrocarbons? How does the R1WB know what heaters were used? Did R1WB inform the agencies what chemicals were present, and what quantities? Isn't the amount of dioxin produced proportional to the rate they are produced multiplied by the time that the evaporation pit was operating? Did the R1WB inform the other agencies that at least 250 gallons of chemicals were being evaporated each week, or was the impression given that a relatively small amount, such as from a hospital incinerator, was consumed?

In fact, the R1WB is the best source of the expert testimony that dioxins are present. The nearby hospital incinerated medical waste. That fact is the sole reason the R1WB believes there are dioxins on the Remco property. Based on that conclusion, unsupported by any actual evidence, the R1WB decided not to test for dioxins. Apparently the R1WB did not or does not understand that dioxins are a family of related chemicals and that sources have a characteristic signature expressed in the proportion of each congener present.

(5) Escape of metals. R1WB staff deny that the metals that exited the property during the earlier Interim Remedial Action (IRA) reached the Safeway property. First, the Safeway site is not

adjacent to the Remco site. Highway 101 lies between. When I say "off-site" in relation to the Remco site, I mean off that site and do not mean to refer to Safeway or other more remote locations.

But assuming that the R1WB's juxtaposition of Remco and Safeway is justified, where did the chemicals go? If there is any scientific analysis that shows well GMX-7A was turned into an extraction well soon enough to capture the plume that it detected, I was unable to find it in the file.

It may be that chemicals naturally disperse. That process should have been studied by the R1WB already. If the chemicals are dispersing faster than the flow of groundwater can carry them offsite, then perhaps no remediation need be done at all.

It would be proper to say that a small amount of metals escaped off site because GMX-7A was turned into an extraction well soon after the other contingency plans failed. Of course, nobody knows if other channels have provided paths for the migration of chemicals because the R1WB has not determined that narrow buried channels are not present. Indeed, the escape of arsenic at GMX-7A was due to a channel that was not predicted by the RI, and the R1WB has done nothing to determine if there are any others.

(6) Groundwater flow rate. R1WB staff proves the deficiency of their environmental analysis by stating that the groundwater flows up to 149 feet per year, which amounts to approximately 1,500 feet over the 12 year period that the R1WB has been managing the project.

The R1WB cannot know the contamination remains within 300 feet of the site because it has no data from wells outside the plume of contamination in the direction of groundwater movement. It has been established, after and because of the release of metals off site in the earlier IRA, that the subsurface conditions are variable, consisting of unmapped and uncharacterized channels and other features. The R1WB has not sampled enough to preclude the possibility that it has missed significant contamination flow.

If the R1WB is unaware that one estimate put the groundwater flow rate at 600 feet per year, it is because they failed to perform an independent analysis. That information was presented to the City of Willits at a public meeting. At the same meeting, a consultant employed by the City observed that the RI does not map the entire extent of the plume. The Versar report also detected chemicals outside of the area that the R1WB is ignoring.

This information was presented to the City in connection with the National Contingency Plan (NCP) process being followed by the Trust that resulted in the preparation of the RI, which was accepted as an EIR by R1WB staff. The information was disclosed in a public meeting and therefore PRC §21167.6(e)(10) places it in the ROP whether the R1WB managed to obtain a copy for their files or not.

(7) Vinyl Chloride. The answer to this question precludes the use of a ND for this project. By the R1WB staff's own statement, the intermediate products are more dangerous that the chemicals that are to be cleaned up. That establishes that there is a significant adverse impact, no matter how the environmental baseline is defined.

The project description is clear that the R1WB believes the vinyl chloride will decompose, but cannot predict the time frame that will take place in. The R1WB has not discussed alternatives that would either avoid the production of vinyl chloride or guarantee its degradation. Therefore there is the possibility of a significant adverse environmental effect, and therefore an EIR must be prepared.

(8) B-zone. My comments concerning the lack of characterization of the chemical constituents and the extent of the plume do not specify a zone because it has been well known since the publication of the RI that there are no zones. This is confirmed by the R1WB response that there is "some interconnectivity" between the zones.

There is no reason to expect the artesian conditions to be limited to the buildings. The trust has prepared an impermeable seal over most of the site, including the property that was added to the site in order to justify statements that the contaminants are predominantly on site. That seal is increasing pressure during artesian conditions and increasing the rate of groundwater flow- all in an unknown manner because of the failure of the R1WB to perform a proper analysis.

(9) Well sampling. The frequency of sampling is not the issue. If the wells are located where they will never detect escaping contamination, the frequency of sampling is entirely irrelevant.

The R1WB staff shows that it has inadequately characterized the site in several ways: R1WB knows that the rate of flow varies by a factor of at least 10, but has no map showing the different flow rates; R1WB knows there is interconnectivity between the so called zones, but has no map showing the connections; R1WB knows that lenses "do not generally form continuous layers", but has no map showing where the lenses are).

(10) Air Sampling. First, my statement that the air sampling was not conducted by the R1WB in accord with the recommendations of the State Department of Public Health is confirmed by the response. As the response notes, the recommendation was for sampling throughout an annual cycle. The R1WB did not do that, but took a single sample and thereby avoided any effects that may be caused by the seasonally fluctuating groundwater level beneath the site.

If the R1WB was going to discard the measurements of Benzene if it was found, why were the tests made?

I believe there is conflicting evidence in the ROP. I believe there is an early study that shows

VOCs concentrated very near Highway 101 and then showing a constant level along most of Franklin Avenue. When VOCs were detected in the Avila residence, the Trust and R1WB made the assumption that the VOCs came from Highway 101.

(11) Vapor Intrusion. The R1WB does not have evidence concerning vapor escape from the ground under all of the conditions existing at the site. According to the staff report, groundwater fluctuates according to season. The R1WB has deliberately avoided tests over the annual cycle to determine if the rising groundwater expels gases that have accumulated in the soil during the dry season.

(12) Report of Waste Discharge. I thank R1WB staff for correcting my mischaracterization of the permit sought by the Trust in August of 2008. I was misled by the confusing title the R1WB uses for the permit. It is for both waste discharge requirements and NPDES permits and nothing indicates which.

However, my point was the failure of the R1WB for not requiring the Trust to apply for permits prior to the close of the public comment period in the NCP process. It is significant that the R1WB had twice placed the approval of the project on their agenda before the application was made.

It is not particularly important what titles the R1WB puts on its application forms. It is important that an agency that is supposed to be overseeing a project have some proactive interaction with the project.

(13) Change of protocol. The R1WB wants to says that the prior operation is safe, even though it has never performed any environmental analysis at the site, and then says that changes to the protocol that was used before will make no difference. Clearly the R1WB has no information concerning the process and alternatives.

(15) Experienced staff. The R1WB staff have no more experience with the site now than they did when they knowingly allowed the facility to pollute the groundwater and air in the first place. The only increase in experience is in accepting the recommendations of the Trust.

(16) Toxic VOCs. The R1WB apparently believes that contact with dangerous chemicals can be prevented by making the Trust promise to keep the chemicals confined. That did not happen in the first IRA, and the R1WB cannot be sure chemicals are not escaping the site in much larger quantities than are presently known because the monitoring wells are spaced more widely than the known size of channels.

(17) Metasomatism. The R1WB asserts, without reliance on any expert testimony, that none of the chemicals found in the groundwater beneath the site can affect the nature of the clay, silt, and gravel bodies under ground. The permeability of the soil directs the flow of the groundwater, so

any change to the permeability of clay particles could have a significant effect on the project.

The R1WB goes on to say that there is no danger because of a contingency plan. A contingency plan is not a mitigation measure. A contingency plan is a prudent measure to insure against uncertainty. Such a plan is a prima facie admission that there is the potential for a significant adverse impact and therefore an EIR must be prepared.

(18) Microorganisms. The R1WB is not responsive. The response does not discuss how it can have confidence that harmful organisms will not be stimulated by the molasses injection. It cannot provide a response because it has never studied the proposed treatment methodology. The R1WB is merely approving what the Trust has proposed and the Trust has no information at all about what the process actually does, beyond reducing the levels of hexavalent chromium and substituting vinyl chloride for less harmful chemicals.

(19, 20) Vinyl Chloride levels. In comment (19), the commentor asked for information concerning the degradation rate of vinyl chloride. Because the R1WB has no idea how the vinyl chloride will break down, it chose to interpret the question in an extremely narrow and literal manner. However, the question was properly phrased in (20).

"The time frame to complete the dechlorination process will vary across the site." The R1WB goes on to emphasize its uncertainty concerning the project by saying that dechlorination may take place in a few months, or an unknown period exceeding five years at least. The original molasses injection took place 5 years ago. The R1WB has no information concerning the long term effects on the environment.

Conclusion

As noted above, the responses to comments contain several clear examples of the uncertainty that requires an EIR to be prepared.

The public has met its requirements by raising these issues. CCEJ, WCEJ, Donna Avila, and I have presented substantial evidence by referring to documents in the ROP for the project. We have made fair arguments that the potential exists for significant adverse environmental effects or impacts. The R1WB obviously concurs because it is requiring contingency plans for circumstances that it says cannot happen. In fact, the circumstances can happen (such as escape of mobilized metals and other chemicals) because the R1WB has not properly characterized the site and considered alternative remediation methodologies and techniques.

The staff report is clear that the toxicity of the groundwater will be increased for an unknown time that depends on unknown characteristics of the site. That is a significant adverse effect that is a direct consequence of the project. It cannot be mitigated to a level of insignificance without preparing an EIR.

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Furthermore, there is no lawfully approved environmental document for the remediation of any Remco site. Once the R1WB accepts the duty placed on it by the Legislature- namely to comply with CEQA prior to making discretionary decisions regarding the remediation of the site- it will have to prepare an cumulative impact analysis for the entire project described by CAO 99-55.

In conclusion, I am not necessarily opposed to the injection of molasses to reduce the VOCs. My sole interest is for the R1WB to begin preparing the environmental analyses that are required by CEQA for this kind of project.

Therefore I would appreciate being informed when an NOD is issued so that I can submit a Petition for Review to the State Water Resources Control Board as soon as possible. I believe the issues are very clear in this case, and that use of an ND is precluded as a matter of law.

Respectfully Submitted,

Ken Berry,
California Citizens for Environmental Justice